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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,894	10/06/2000	John J. Egan	BKS 308 P2	6069

7590
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12/04/2001

EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 12/04/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,894

Examiner

Burton S. Mullins

Applicant(s)

EGAN ET AL.

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16, 18-20, 22 and 24-32 is/are rejected.
- 7) ☒ Claim(s) 6, 15, 17, 21, 23 and 33 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.

- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

BURTON S. MULLINS
PRIMARY EXAMINER

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1-7 and 19 are objected to because of the following informalities: The claims should begin with an article, e.g., "a" or "an". In claim 19, line 4, delete the second comma. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. Claims 8-12 and 24-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, "hollow-shafted" is a vague adjective. Instead, use the definite "hollow shaft".

In claim 24, recitations "an accepts surface" and "said accepts side surface of said screen" do not make sense.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

5. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Egan (US 5,947,394). Egan teaches a rotary disk paper pulp refiner system and method including: a motor 35 having a stationary member (stator/housing 12) and a submersible rotatable drive member (rotor 15), magnetic bearing means 40/42 and 44/48 for supporting said rotatable drive member, and a submersible rotatable processing component (refiner disk sets 16/17) carried by said rotatable drive member 15, said bearing means controlling axial (44/48) and radial (40/42) movement of said rotatable drive member relative to said stationary member.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 5, 7, 13-14, 16, 18, 20, 22 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egan in view of Giardini et al. (US 3,932,069). Egan discloses applicant's invention but does not teach a variable speed switched reluctance motor.

Giardini teaches a variable reluctance motor used to drive a rotatable member of a submersible processing apparatus (a pump) in a closed chamber. The motor uses well-known synchronized, pulsed (switched) excitation (c.1, lines 48-63; c.2, lines 22-26). Variable reluctance motors provide an extremely simple structure for producing pumping action (abstract; c.4, lines 30-31). It would have been obvious to one having ordinary skill in the art to employ the variable switched reluctance motor of Giardini to drive the processing apparatus of Egan since these motors would be desirable for their simple structure for producing pumping action.

Regarding claim 13, the rotor and rotatable pulp processing component in Egan are integral since they form one piece.

Regarding claim 14, note axial and radial magnetic bearing sets 44/48 and 40/42 in Egan.

Regarding claims 18 and 22, Egan's axial bearing controls the axial position of the shaft and rotor and thereby controls the refining width of the respective refiner gaps 20 and 21 (c.4, lines 15-17).

Regarding claim 20, Egan's rotor 15 has a first end carrying a first refiner plate 16 and a second end carrying a second refiner plate 17, a first end plate spaced axially from said first refiner plate and a second end plate spaced axially from said second refiner plate (Fig.1) with said first and second end plates and said stator (not numbered) defining an enclosed housing (Fig.1), a third refiner plate 18 mounted on said first end plate and axially spaced from said first refiner plate, a

fourth refiner plate 19 mounted on said second end plate and axially spaced from said second refiner plate.

Regarding claims 28-32, the generic steps are fulfilled by the apparatus of Egan and Giardini. In particular, combining the pulp processor of Egan and drive motor of Giardini into an "integral unit" would have been obvious since Giardini teaches an "integral" rotor/pump with an extremely simply design.

Allowable Subject Matter

8. Claims 8-12 and 24-27 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Regarding claim 8, the prior art does not teach a hollow rotor or rotor with a hollow shaft that defines a fluid input for fluid to flow between the refiner plates. In particular, the rotor shaft 32 in Egan (Fig.1) is not hollow.

Regarding claim 24, the prior art does not teach a screen in a switched reluctance motor papermaking apparatus including, inter alia, a screen adjacent the stator, a fluid foil carried by the rotor, and first and second collection channels which communicate with surfaces on the screen.

9. Claims 6, 15, 17, 19, 21, 23 and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 6, the prior art does not teach a screen cylinder as the rotatable pulp processing component. Croopnick teaches concentric screen cylinders, but these are used in

combination with a centrifugal microstrainer. There would be no motivation or teaching to use the screen cylinder from a centrifugal strainer on a rotary disk refiner as taught by Egan and Giardini.

Regarding claims 17, 21 and 33, the prior art does not teach a hollow rotor or rotor with a hollow shaft that defines a fluid input for fluid to flow between the refiner plates. In particular, the rotor shaft 32 in Egan (Fig. 1) is not hollow.

Regarding claims 15, 19 and 23, the prior art does not teach a rotor comprising an inclined surface positioned adjacent an inclined surface of the stator, with magnetic bearings positioned along the inclined surfaces and controlling both axial and radial positioning of the rotor. In Egan, the magnetic bearings are located at axially spaced distances along the length of the refiner, and there is no teaching of inclined surfaces on both the rotor and stator.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is (703) 305-7063.

bsm

November 30, 2001


BURTON S. MULLINS
PRIMARY EXAMINER